Installation Instructions

Over The Range Microwave Oven

BEFORE YOU BEGIN (Read these instructions completely and carefully.)				
IMPORTANT	Save these instructions for local inspector's use.			
IMPORTANT	Observe all governing codes and ordinances.			
Note to Installer	- Be sure to leave these instructions with the Consumer.			
• Note to Consumer	- Keep these instructions for future reference.			
Skill level	- Installation of this appliance requires basic mechanical and electrical skills.			
• Proper installation	is the responsibility of the installer.			
• Product failure due	to improper installation is not covered under the Warranty.			



READ CAREFULLY. KEEP THESE INSTRUCTIONS.

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General information

IMPORTANT SAFETY INSTRUCTIONS

This product requires a three-prong grounded outlet. The installer must perform a ground continuity check on the power outlet box before beginning the installation to ensure that the outlet box is properly grounded. If not properly grounded, or if the outlet box does not meet electrical requirements noted (under ELECTRICAL REQUIREMENTS), a qualified electrician should be employed to correct any deficiencies.



CAUTION: For personal safety, remove the house fuse or open the circuit breaker before beginning the installation to avoid severe or fatal shock injury.

CAUTION: For personal safety, the mounting surface must be capable of supporting the cabinet load in addition to the added weight of this 69 pound product, plus additional oven loads of up to 50 pounds or a total weight of 109 pounds.

CAUTION: For personal safety, do not install this product in cabinetry configured as an island or a peninsula. The microwave oven must be mounted to BOTH a top cabinet AND a wall.

NOTE: For easier installation and personal safety, we recommend that two people install this product.

IMPORTANT – PLEASE READ CAREFULLY. FOR PERSONAL SAFETY, THIS APPLIANCE MUST BE PROPERLY GROUNDED TO AVOID SEVERE OR FATAL SHOCK.



The power cord of this appliance is equipped with a three-prong (grounding) plug which mates with a standard three-prong (grounding) wall receptacle to minimize the possibility of electric shock hazard from this appliance.

You should have the wall receptacle and circuit checked by a qualified electrician to make sure the receptacle is properly grounded.

If you have a standard two-prong wall receptacle, it is very important to have it replaced with a properly grounded three-prong wall receptacle, installed by a qualified electrician.

DO NOT, UNDER ANY CIRCUMSTANCES, CUT, DEFORM OR REMOVE ANY OF THE PRONGS FROM THE POWER CORD. DO NOT USE WITH AN EXTENSION CORD.

ELECTRICAL REQUIREMENTS

Product rating is 120 volts AC, 60 Hertz. This product must be connected to a supply circuit of the proper voltage and frequency. Wire size must conform to the requirements of the National Electrical Code or the prevailing local code for this kilowatt rating. The power supply cord and plug should be brought to a separate branch circuit single grounded outlet of at least 15 A and max of 20 A. 20 A is recommended for multifamily buildings. The outlet box should be located in the cabinet above the microwave oven. The outlet box and supply circuit should be installed by a qualified electrician and conform to the National Electrical Code or the prevailing local code.

HOOD EXHAUST

NOTE: Read these next two pages only if you plan to vent your exhaust to the outside. If you plan to recirculate the air back into the room, proceed to page 11.

OUTSIDE TOP EXHAUST (EXAMPLE ONLY)

The following chart contains an example of one possible ductwork installation.

DUCT PIECES		EQUIVALENT LENGTH	x	NUMBER USED	=	EQUIVALENT LENGTH	
		Roof Cap	24 ft.	х	(1)	=	24 ft.
		12 Ft. Straight Duct (6" Round)	12 ft.	х	(1)	=	12 ft.
		Rectangular-to-Round Transition Adaptor*	5 ft.	x	(1)	=	5 ft.
	Equivalent lengths of duct pieces are based on actual tests and reflect requirements for good venting performance with any vent hood.			Total Length	=	41 ft.	

* **IMPORTANT**: If a rectangular-to-round transition adaptor is used, the bottom corners of the damper will have to be cut to fit, using the tin snips, in order to allow free movement of the damper.

OUTSIDE BACK EXHAUST (EXAMPLE ONLY)

The following chart contains an example of one possible ductwork installation.

	DUCT PIECES		EQUIVALENT LENGTH	х	NUMBER USED	=	EQUIVALENT LENGTH
		Wall Cap	40 ft.	х	(1)	=	40 ft.
F		3 Ft. Straight Duct (3 ¼" x 10" Rectangular)	3 ft.	x	(1)	=	3 ft.
Ð		90° Elbow	10 ft.	х	(2)	=	20 ft.
	Equivalent lengths of duct pieces are based on actual tests and reflect requirements for good venting performance with any vent hood.		Total Length	=	63 ft.		

NOTE: For back exhaust, care should be taken to align the exhaust with the space between studs, or the wall should be prepared at the time it is constructed by leaving enough space between the wall studs to accommodate exhaust.

NOTE: If you need to install ducts, note that the total duct length of $3 \frac{1}{4}$ " x 10" rectangular or 6" diameter round duct should not exceed 140 equivalent feet.

Outside ventilation requires a HOOD EXHAUST DUCT. Read the following carefully.

NOTE: It is important that venting be installed using the most direct route and with as few elbows as possible. This ensures clear venting of exhaust and helps prevent blockages. **Also, make sure dampers swing freely and nothing is blocking the ducts.**

Exhaust connection:

The hood exhaust has been designed to mate with a standard 3 $\ensuremath{\mathcal{V}}\xspace^{-1}$ rectangular duct.

If a round duct is required, a rectangular-to-round transition adaptor must be used. **Do not use less than a 6**" **diameter duct.**

Maximum duct length:

For satisfactory air movement, the total duct length of 3 ¼" x 10" rectangular or 6" diameter round duct should not exceed 140 equivalent feet.

Elbows, transitions, wall and roof caps,

etc. present additional resistance to airflow and are equivalent to a section of straight duct which is longer than their actual physical size. When calculating the total duct length, add the equivalent lengths of all transitions and adaptors plus the length of all straight duct sections. The chart below shows you how to calculate total equivalent ductwork length using the equivalent length in feet of some typical ducts.

DUCT PIECES		EQUIVALENT LENGTH	x	NUMBER USED	=	EQUIVALENT LENGTH
	Rectangular-to-Round Transition Adaptor*	5 ft.	х	()	=	ft.
	Wall Cap	40 ft.	x	()	=	ft.
	90 ° Elbow	10 ft.	х	()	=	ft.
Ø	45 ° Elbow	5 ft.	х	()	=	ft.
	90 ° Elbow	25 ft.	х	()	=	ft.
	45 ° Elbow	5 ft.	х	()	=	ft.
	Roof Cap	24 ft.	х	()	=	ft.
	Straight Duct 6" Round or 3 ¼" x 10" Rectangular	1 ft.	х	()	=	ft.
				Total Ductwor	k =	ft.

IMPORTANT: If a rectangular-to-round transition adaptor is used, the bottom corners of the damper will have to be cut to fit, using tin snips, to allow free movement of the damper.

Equivalent lengths of duct pieces are based on actual tests and reflect the requirements for good venting performance with any vent hood.

General information

DAMAGE - SHIPMENT/INSTALLATION

- If the unit is damaged in shipment, return the unit to the store in which it was bought for repair or replacement. •
- If the unit is damaged by the customer, repair or replacement is the responsibility of the customer.
- If the unit is damaged by the installer (if other than the customer), repair or replacement must be made by • arrangement between the customer and installer.

PARTS INCLUDED

	PART				
Companya and	Wood Screws (¼" x 2")	1			
	Toggle Bolts (and wing nuts) (³ / ₁₆ " x 3")	2			
Provide State	Self-aligning Machine Screws (¼" - 28 x 3 ¼")	2			

You will find the installation hardware contained in a packet with the unit. Check to make sure you have all these parts.

NOTE: Some extra parts are included.

ADDITIONAL		QUANTITY
	PART	QUANTITY
TOP CABINET TEMPLATE	Top Cabinet Template	1
REAR WALL TEMPLATE	Rear Wall Template	1
INSTALLATION INSTRUCTIONS	Installation Instructions	1
	One Touch Easy Grease Filter	1 (Installed)
	Exhaust adaptor	1

General information

TOOLS YOU WILL NEED



MOUNTING SPACE



NOTES:

- The space between the cabinets must be 30" wide and free of obstructions.
- This microwave oven is for installation over ranges up to 36" wide.
- If you are going to vent your microwave oven to the outside, see the Hood Exhaust Section for exhaust duct preparation.
- If installing the microwave oven beneath smooth flat cabinets, be careful to follow the instructions on the top cabinet template for power cord clearance.
- Maximum cabinet depth above and beside the unit is 12".
- The dimensions provided are the minimum required for mounting the microwave oven. Local codes and the practical use of the range will likely require you to provide more than the 13.5" shown between the range and the bottom of the microwave.

1. PLACEMENT OF THE MOUNTING PLATE

A. REMOVING THE MICROWAVE OVEN FROM THE CARTON/REMOVING THE MOUNTING PLATE

- 1. Remove the installation instructions, Exhaust adaptor, filters, glass tray, and the small hardware bag. Do not remove the Styrofoam protecting the front of the oven.
- Fold back all 4 carton flaps fully against carton sides. Then carefully roll the oven and carton over onto the top side. The oven should be resting in the Styrofoam.



- 3. Pull the carton up and off the oven.
- 4. Remove and properly discard plastic bags.



 Remove the 2 screws from the mounting plate. This plate will be used as the rear wall template and for mounting.

NOTE: Retain the two screws. You will need to re-insert the screws in their original locations after you have removed the mounting plate.

B. FINDING THE WALL STUDS



 Find the studs using one of the following methods:
A. With a stud finder – a magnetic device which locates nails.

OR

- **B.** Use a hammer to tap lightly across the mounting surface until you hear a solid sound. This will indicate a stud location.
- 2. After locating the stud(s), locate the stud's center by probing the wall with a small nail to find the edges of the stud. Then, place a mark halfway between the edges. The center of any adjacent studs should be 16" or 24" from this mark.
- 3. Draw a line down the center of the studs.

THE MICROWAVE MUST BE CONNECTED TO AT LEAST ONE WALL STUD.





CAUTION: Wear gloves to avoid cutting fingers on sharp edges.

- 1. Draw a horizontal line on the wall at the bottom of the "Rear Wall Template".
- Drill 5/8" holes for toggle bolts in 3 locations (Hole A, Hole B, Hole C) as shown in the illustration above. If the location of a hole lines up with a stud, drill a 3/16" hole for a wood screw. You cannot use a toggle bolt to attach the wall plate to a stud.

NOTE: DO NOT MOUNT THE PLATE AT THIS TIME.

 Holes A, B and C are inside area E. If none of these holes line up with a stud, find a stud in area E that lines up with a hole circle in Area E, and then drill a ³/₁₆" hole into it for a wood screw. You must have at least one wood screw mounted firmly into a stud to support the weight of the microwave. Set the mounting plate aside.

2. VENTILATION TYPES (CHOOSE A, B OR C)

This microwave oven is compatible with the following three types of ventilation:

- A. Outside Top Exhaust (Vertical Duct)
- B. Recirculating (Non-Vented Ductless)
- C. Outside Back Exhaust (Horizontal Duct)

A. OUTSIDE TOP EXHAUST (VERTICAL DUCT)



NOTE: This microwave is shipped assembled for Outside Top Exhaust (except for non-vented models). An exhaust adaptor is shipped assembled and attached to the fillerupper. Select the type of ventilation required for your installation and proceed to that section.

B. RECIRCULATING (NON-VENTED DUCTLESS)



See page 12, Part B

IMPORTANT: You must install the included Charcoal Filter if you select nonvented exhaust. The charcoal filter is provided with the unit.

C. OUTSIDE BACK EXHAUST (HORIZONTAL DUCT)



See page 14

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A. OUTSIDE TOP EXHAUST (VERTICAL DUCT)



 Make sure the tape securing the damper is removed and damper pivots easily before you mount the microwave.

CAUTION: You will need to make adjustments to assure proper alignment with your house exhaust duct after the microwave is installed.

A2. ADJUST THE EXHAUST ADAPTOR

After you have installed the microwave, you will need to open the top cabinet and adjust the exhaust adaptor so that you can connect it to the house duct.



NOTE: You must attach the house duct to the exhaust adaptor after installation is complete.



B. RECIRCULATING (NON-VENTED DUCTLESS)

B1. ADAPTING THE MICROWAVE BLOWER FOR RECIRCULATION

- 1. Remove and save screw that holds blower plate to microwave.
- 2. Lift up the blower plate.



NOTE: The exhaust adaptor with the damper is not needed for recirculating models. You may want to save them for possible future use.

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3. Remove the screw that holds the blower motor and carefully pull out the blower unit. The wires will extend far enough to allow you to adjust the blower unit.



CAUTION: To avoid breaking or cracking the blower blade, do not touch the blade. Hold the outer case of the blower when you pull it out or put it back in place.

4. Roll the blower unit 90 ° so that the fan blade openings are facing toward the front of the microwave.



5. Place the blower unit back into the opening.



CAUTION: Do not pull or stretch the blower unit wiring. Make sure the wires are not pinched.

6. Remove the metal vent fan cover on the back of the microwave by sliding it up.



7. Close the blower door. Slide blower shield onto the top of the blower door opening.



8. Secure the blower to the microwave using the blower retaining screws from Step 1.



B2. INSTALLING THE CHARCOAL FILTER

- 1. Open the door before turning on the power at the main power supply.
- 2. Remove the vent grille mounting screws.
- **3**. Slide the vent grille to the left, then pull it straight out.
- **4**. Install the charcoal filter. Slide a new charcoal filter into place. The filter should rest at the angle shown.



- **5**. Replace the vent grille and 2 screws.
- 6. Close the door.

C. OUTSIDE BACK EXHAUST (HORIZONTAL DUCT)



1. Remove and save screw that holds blower Plate to microwave.



 Open the blower door by lifting it up at the back of the microwave. Remove and save the blower shield on the back of the microwave by sliding it up. Remove and save the metal vent fan cover on the back of the microwave by sliding it up.



 Carefully pull out the blower unit. The wires will extend far enough to allow you to adjust the blower unit.



CAUTION: To avoid breaking or cracking the blower blade, do not touch the blade. Hold the outer case of the blower when you pull it out or put it back in place.

4. Remove Parts "A" with tin snips or pliers.





3. INSTALLATION

INSTALLATION OVERVIEW

- Prepare the Rear Wall (for outside back exhaust/ horizontal duct only)
- B. Attach the Mounting Plate to the Wall
- C. Prepare the Cabinet above
- D. Mount the Microwave Oven
- E. Connect the Ductwork (for outside top exhaust/vertical duct only)

A. PREPARE THE REAR WALL FOR OUTSIDE BACK EXHAUST

You need to cut an opening in the rear wall for outside exhaust.



- Read the instructions for outside back exhaust on the REAR WALL TEMPLATE.
- Tape the REAR WALL TEMPLATE to the rear wall.
- Cut the opening, following the instructions on the REAR WALL TEMPLATE.

CAUTION: Do not cut an opening in the rear wall if you are installing the microwave with vertical duct or nonvented ductless ventilation.



B. ATTACH THE MOUNTING PLATE TO THE WALL



Attach the plate to the wall using toggle bolts. At least one wood screw must be used to attach the plate to a wall stud.

- 1. Remove the toggle wings from the bolts.
- Insert the bolts into the mounting plate through the holes designated to go into drywall, and then reattach the toggle wings so that ³/₄" of the bolt protrudes beyond the wing.



3. Place the mounting plate against the wall, pinch the wings of each toggle together, and then insert the toggle wings of each toggle into and through the holes in the wall.

NOTE: Before tightening the toggle bolts and wood screw, make sure the bottom of the Mounting plate runs along the bottom Horizontal line of the "Rear wall Template" and the Mounting plate is properly centered under the cabinet.

CAUTION: Be careful to avoid pinching your fingers between the back of the mounting plate and the wall.

4. Tighten all bolts. Pull the plate away from the wall to help tighten the bolts. Tighten the screw.

C. USE THE TOP CABINET TEMPLATE TO PREPARE THE CABINET ABOVE

You need to drill holes for the top support screws and a hole large enough for the power cord to fit through.



- Read the instructions on the TOP CABINET TEMPLATE.
- Tape it underneath the top cabinet.
- Drill the holes, following the instructions on the TOP CABINET TEMPLATE.

CAUTION: Wear safety goggles when drilling holes in the cabinet bottom.

D. MOUNT THE MICROWAVE OVEN



FOR EASIER INSTALLATION AND PERSONAL SAFETY, WE RECOMMEND THAT TWO PEOPLE INSTALL THIS MICROWAVE OVEN.

IMPORTANT: Do not grip the handle or use the handle during installation to support the microwave.

NOTE: If your cabinet is metal, use the nylon grommet in the power cord hole to prevent the cord from being cut.

NOTE: Filler blocks are required when mounting this unit under any cabinet with a recessed bottom or front overhang. (See page 9.)

IMPORTANT: The case damage that will occur from over tightening screws if you do not use filler blocks is not covered under warranty.

IMPORTANT: For models with the grease filter installed, don't push up on the filter when you mount the oven.





NOTE: When mounting the microwave oven, thread the power cord through hole in the bottom of the top cabinet. Keep it tight throughout Steps 1–3. Do not pinch the cord or lift the oven by pulling cord.



6. Install the grease filters. See the Owner's Manual packed with the microwave for instructions.



NOTE: For models with installed grease filters, you do not need to install a filter

E. CONNECT THE DUCTWORK FOR OUTSIDE TOP EXHAUST



- 1. Extend the house duct down to connect to the exhaust adaptor.
- 2. Seal the exhaust duct joints using duct tape.

Before You Use Your Microwave

4. BEFORE YOU USE YOUR MICROWAVE



SAMSUNG

